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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,796	09/22/2003	Jeffrey L. Hall	01333	1924

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Thomas H. Close
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER	
WALKE, AMANDA C	

ART UNIT	PAPER NUMBER
1752	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/667,796	HALL, JEFFREY L.	
	Examiner	Art Unit	
	Amanda C Walke	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamura (6,382,125).

Tamura disclose a temperature control material comprising a temperature indicator whose developed color density differs according to temperature, which is irreversible at environmental temperature, which changes its color according to crystal or non-crystal, or phase separation or non-phase separation, and whose glass transition temperature is set to a temperature higher than control temperature, by irradiating the temperature indicator with light having a wavelength absorbed by a color developed by the temperature indicator and detecting the intensity of the reflected light or transmitted light. Accordingly, even when the temperature becomes higher than control temperature temporarily, temperature control can be carried out smoothly thereafter. It is possible to know the storage environment of the temperature indicator by irradiating the above-described temperature indicator with light having a wavelength absorbed by a color developed by the temperature indicator and detecting the density of the temperature indicator, that is, the intensity of reflected light or transmitted light. The styrene-methacrylic acid copolymer having a Tgc of 126 degrees C. is used as a binder resin. When Tgc of this binder resin is changed to a temperature higher than Tgr of the temperature indicating material, the color development speed

after initialization can be changed. For example, when the content of methacrylic acid is changed from 10% (A91) to 13% (A-14: Dainippon Ink and Chemicals, Inc.), Tgc is shifted to 135 degrees C. and the color development speed after initialization is reduced. When a polystyrene resin having a Tgc of 92 degrees C. and containing no methacrylic acid is used, the color development speed is increased. Tgr of the temperature indicating material is set to a temperature higher than measurement environmental temperature and Tgc of the binder resin is set to a temperature higher than Tgr. The color development speed is controlled by changing Tgc of the binder resin. Since this temperature indicator starts temperature control after it is initialized by heating and quenching with a thermal head, a separator is not required. Color development proceeds in portions initialized by the time and temperature of the temperature indicator. Then, to carry out temperature control accurately, an erasure time is input into a pattern which is initialized (erased) with the thermal head. For instance, a bar code is formed of erased portions and unerased portions, and an erasure time is included in bar code information. Stated more specifically, when the issue time is 00:00 on Apr. 1, 1998, "4998040100001" is printed on a bar code. The first "49" indicates a flag, "98" indicate the year, "0401" indicates April 1, and "0000" indicates 00:00. The last "1" indicates a check character in accordance with the format of JAN13. In this embodiment, temperature control start time grasping means for grasping a temperature control start time by reading the bar code including time information of a temperature control material and time recognition means for grasping a time when the temperature is actually detected are provided and means for calculating the total time of temperature control by means of the above temperature control start time grasping means and the time recognition means, detecting means for detecting the density of a color developed at environmental temperature after

erasure, that is, the intensity of reflected light by irradiating the temperature indicator with light having a wavelength absorbed when the temperature indicator develops a color, and a reader having a table in which the above temperature indicator is recorded are used to detect an exposure temperature. That is, the preferred embodiment introduces a method for detecting average exposure temperature by the table in which the above temperature indicator is recorded, the intensity of reflected light of the temperature indicator at the time of actually measuring the temperature, and the total time of temperature.

Given the teachings of the reference, the instant claims are anticipated.

2. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Paton et al (6,536,370).

Paton et al disclose a device which is sensitive to an environmental substance in a controlled environment. Embodiments include a humidity sensitive timer treated with a cobalt salt which changes colors after a certain exposure time within the controlled environment. Elapsed time is measured by exposing the timer to a humidity controlled environment and monitoring the timer for a change in color. In an embodiment of the present invention, when the environmental substance to be measured is humidity, an absorptive media, such as clay or silica gel, can be impregnated with the substance-sensitive material, such as an inorganic salt or an organic compound, which display color changes upon absorption of humidity. Alternatively, the absorptive media and substance-sensitive material can be blotter paper impregnated with inorganic salts or organic compounds. Representative organic compounds or inorganic salts which are useful in humidity detectors are acidified vanillin, magnesium nitrate, sugar, cuprous chloride, sodium bromide, nickel nitrate, ferric nitrate, cobalt bromide, ammonium nitrate,

sodium dichromate, ferrous chloride, ammonium dichromate, nickel chloride, strontium chloride and cuprous nitrate. Additionally, it may be desirable to use various water-soluble dyes with certain salts which do not have a strong visible color of their own. Thus, Neptune Blue, BRA dye, Rhodamine B dye and Alphazurine 2 G Blue dye are useful in combination with some of the salts listed above. In an embodiment of the present invention, the substance-sensitive material is formed of a sheet of moisture absorbent blotter paper treated with a chemical solution of cobalt chloride. The cobalt salt will change color from a first readable blue color through a lavender color to a second readable pink color upon exposure to water vapor. The blue color is representative of a dry condition and the pink color is representative of a saturated state. A pink colored cobalt chloride salt can be regenerated by driving off the absorbed moisture thereby causing the salt to revert back to the first readable blue color and resetting the timer. A sheet of the impregnated blotter paper can be provided for each discrete patch 12A through 12D such that each of the patches have blotter paper with a different amount cobalt chloride and/or additives which will change color at different exposure times, thus providing a timer with a series of readable exposure levels signaling discrete time intervals. In an embodiment of the present invention, as illustrated in FIG. 2, the timer can comprise a laminated structure, where substrate 10 supports substance-sensitive material 22 and a first layer, layer 24, can be laminated to substrate 10 substantially covering substance-sensitive material 22. Layer 24 should be of a material that is transparent to permit visual observations of changes in color and should be sufficiently permeable to allow communication between the environmental substance and substance-sensitive material 22.

Given the teachings of the reference, the instant claims are anticipated.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Van den Zegel et al (6,630,278), Hall (6,757,492), Bonds et al (6,786,638), Braunberger (6,801,477), Zweig et al (6,629,057), and Lounis et al (6,756,591) are cited for their teachings of similar materials.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amanda C Walke
Examiner
Art Unit 1752

ACW
March 19, 2005